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10/062,646	01/31/2002	Mao Chen	08CS5966	2152

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EXAMINER

XU, LING X

ART UNIT

PAPER NUMBER

1775

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

10/062,646

Applicant(s)

CHEN, MAO

Examiner

Ling X. Xu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3,5-8,18,20 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,5-8,18,20 and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicants' amendments filed on 7/28/2003 have been entered. In light of applicants' amendments, previous rejection based on 35 USC 112(2) is now withdrawn. However, the rejections based on 35 USC 102(b) and 103(a) still stand for the reasons set forth below.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3 and 6-7 stand rejected under 35 U.S.C. 102(b) as being anticipated by Berger (US 4,499,149) for the reasons of record in Paper No. 5.

### ***Claim Rejections - 35 USC § 103***

3. Claims 8 and 31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Berger for the reasons of record in Paper No. 5.

4. Claims 3, 5-8, 18, 20 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,932,405) in view of Berger.

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Anderson discloses a photographic element comprises a water dispersible siloxane-containing polyurethane (abstract).

Anderson also discloses that the siloxane-containing polyurethane comprises more than 0.25% and less than 25% weight % of the siloxane component (Col. 5, lines 15-30).

With respect to silicone compound recited in claims 3 and 18, Anderson discloses that the siloxane is a diol or diamine in the preparation of the polyurethane which is represented by general formula listed on Col. 5, lines 1-20.

With respect to claims 5-6, Anderson discloses that the composition comprising additives (Col. 5, lines 35-67) and co-solvent (Col. 4, lines 53-60). The additives include abrasive particles, charge control surfactants (Col. 6, lines 1-30), and tertiary amines which are used to neutralize the acid (Col. 4, lines 45-50). The co-solvent includes N-methylpyrrolidone (Col. 4, lines 53-60).

With respect to claim 7, Anderson discloses that the water dispersible polyurethane features the inclusion of siloxane bonds in its molecule (Col. 4, lines 60-67).

With respect to claims 18 and 20, Anderson discloses that the photographic elements comprise various polymeric films and glass (Col. 3, lines 25-33), specifically, the support is made of polymeric films, such as polyester and acetate, or glass (Col. 7, lines 17-25). The protective layer can be served as an outermost backing layer on the support or an outermost layer coated on the top of an abrasion resistance backing layer (Col. 6, lines 30-40).

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Anderson does not disclose the same silicon compounds as recited in claims 3 and 18.

Berger teaches a coating composition represented by formula listed on Col 2, when Z is -HNCO-. The composition comprises a silicone compound free from sulfonic acid functional group, a water dispersible polyurethane compound and an aqueous solvent (Col. 56, lines 35-58, Col. 57, 40-46 and Col. 62, lines 21-25). The composition comprises the same material as claimed in claims 3 and 18.

With respect to claim 6, Berger teaches the co-solvent is polyester diol or glycol ether (Col. 56, lines 40-43).

With respect to claim 7, the silicone compound is chemically bound to the polyurethane compound as indicated in the formula stated above.

Since Berger teaches the same composition as claimed, the same composition will also have the same anti-fog function as claimed.

Berger also teaches the siloxane unit can be incorporated into polyurethane composition to enhance the oil and water repellent properties with improved temperature resistance (Col. 52, lines 60-67 and Col. 62, lines 20-26).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the siloxane compound disclosed by Berger in the polyurethane coating composition in order to obtain a polyurethane coating with enhanced oil and water repellent properties. It would have also been obvious to one skilled in the art to apply the coating onto Anderson's glass or plastic substrate because of its enhanced oil and water repellent properties.

With respect to the newly added claims 32-33, Berger does not specify the species as listed. However, these silicone species and the silicone compounds disclosed by Berger are similar compounds with similar structure.

Therefore, it would have been obvious to one of ordinary skill in the art to use these silicone species as recited in claims 32-33 because they belong to the same group of polymers containing similar siloxane units. Absence of showing any unexpected results, one skilled in the art would have been motivated to use these compound with the expectation that compound similar in structure will have similar properties and utilities.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berger.

Berger discloses a coating composition represented by formula listed on Col 2, when Z is -HNCO-. The composition comprises a silicone compound free from sulfonic acid functional group, a water dispersible polyurethane compound and an aqueous solvent (Col. 56, lines 35-58, Col. 57, 40-46 and Col. 62, lines 21-25). The composition comprises the same material as claimed in claims 3.

Berger does not specify the species as listed in claim 32. However, these silicone species and the silicone compounds disclosed by Berger are similar compounds with similar structure.

Therefore, it would have been obvious to one of ordinary skill in the art to use these silicone species as recited in claim 32 because they belong to the same group of polymers containing similar siloxane units. Absence of showing any unexpected

results, one skilled in the art would have been motivated to use these compound with the expectation that compound similar in structure will have similar properties and utilities.

### ***Response to Arguments***

6. Applicant's arguments filed on 7/28/2003 have been fully considered but they are not persuasive.

Applicant argue that Berger fails to disclose each and every element of independent claim 3 because Berger's polysiloxane contains other functionality at the terminal ends of the siloxane moiety. The claimed element requiring silicone compounds that contain only hydrocarbon functionality or silicone compounds requiring only hydrocarbon functionality at the terminal silicon atoms is not taught by Berger. The Examiner disagrees.

Claim 3 recites the anti-fog coating composition comprising a silicone compound and a water dispersible polyurethane compound. Berger's polysiloxane, see formula listed at Col. 2, contains siloxane units and polyurethane units when Z is -HNCO- as stated in the prior Office action. As disclosed by the specification (page 11) and recited in claim 7, the silicone compound of the present application is chemically bound to the polyurethane compound. Berger disclosed a polysiloxane with silicone compound chemically bound to the polyurethane compound. The additional functional groups at the terminal ends of the siloxane moiety are the polyurethane units. Accordingly, Berger teaches the limitations of <sup>claim</sup> ~~claim~~ 3.

With respect to the rejections Under 35 USC 103(a) with respect to reference Berger and Anderson, applicant again argues that Berger's polysiloxane including additional functional group, which is different from the claimed invention. The Examiner disagrees for the same reasons stated above.

### ***Conclusion***

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 703-305-0395. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 703-308-3822. The fax phone 999numbers for the organization where this application or proceeding is assigned are



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703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Ling X. Xu  
Examiner  
Art Unit 1775

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LX  
August 13, 2003

  
DEBORAH JONES  
SEPT 10 2003 PATENT EXAMINER